

**PROPOSED REGULATIONS**  
**California Code of Regulations, Title 22, Chapter 15**

**ARTICLE 4. PRIMARY STANDARDS -- INORGANIC CHEMICALS**

**Section 64431. Maximum contaminant levels - inorganic chemicals**

(a) The primary MCLs for the drinking water chemicals shown in Table 64431-A shall not be exceeded in the water supplied to the public.

**Table 64431-A**  
Maximum Contaminant Levels  
Inorganic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
Aluminum	1.
Antimony	0.006
Arsenic	0.05
Asbestos	7 MFL*
Barium	1.
Beryllium	0.004
Cadmium	0.005
Chromium	0.05
Cyanide	<del>0.2</del> <u>0.15</u>
Fluoride	2.
Mercury	0.002
Nickel	0.1
Nitrate (as NO <sub>3</sub> )	45.
Nitrate + Nitrite (sum as nitrogen)	10.
Nitrite (as nitrogen)	1.
Selenium	0.05
Thallium	0.002

\*MFL = million fibers per liter; MCL for fibers exceeding 10 um in length.

Authority cited: Sections 100275 and 116375, Health and Safety Code.

Reference: Sections 116300-116750, Health and Safety Code.

ARTICLE 5.5. PRIMARY STANDARDS -- ORGANIC CHEMICALS

**Section 64444. General requirements**

The MCLs for the primary drinking water chemicals shown in Table 64444-A shall not be exceeded in the water supplied to the public.

**Table 64444-A**  
Maximum Contaminant Levels  
Organic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
(a) Volatile Organic Chemicals (VOCs)	
Benzene. . . . .	0.001
Carbon Tetrachloride . . . . .	0.0005
1,2-Dichlorobenzene. . . . .	0.6
1,4-Dichlorobenzene. . . . .	0.005
1,1-Dichloroethane . . . . .	0.005
1,2-Dichloroethane . . . . .	0.0005
1,1-Dichloroethylene . . . . .	0.006
cis-1,2-Dichloroethylene . . . . .	0.006
trans-1,2-Dichloroethylene . . . . .	0.01
Dichloromethane. . . . .	0.005
1,2-Dichloropropane. . . . .	0.005
1,3-Dichloropropene. . . . .	0.0005
Ethylbenzene. . . . .	<del>0.7</del> <u>0.3</u>
Methyl- <i>tert</i> -butyl ether . . . . .	0.013
Monochlorobenzene. . . . .	0.07
Styrene. . . . .	0.1
1,1,2,2-Tetrachloroethane. . . . .	0.001
Tetrachloroethylene. . . . .	0.005
Toluene. . . . .	0.15
1,2,4-Trichlorobenzene . . . . .	<del>0.07</del> <u>0.005</u>
1,1,1-Trichloroethane. . . . .	0.200
1,1,2-Trichloroethane. . . . .	0.005
Trichloroethylene. . . . .	0.005
Trichlorofluoromethane. . . . .	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane. . . . .	1.2
Vinyl Chloride. . . . .	0.0005
Xylenes. . . . .	1.750*
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**Table 64444-A (continued)**  
Maximum Contaminant Levels  
Organic Chemicals

<i>Chemical</i>	<i>Maximum Contaminant Level, mg/L</i>
<b>(b) Non-Volatile Synthetic Organic Chemicals (SOCs)</b>	
Alachlor. ....	0.002
Atrazine. ....	<del>0.003</del> <u>0.001</u>
Bentazon. ....	0.018
Benzo(a)pyrene. ....	0.0002
Carbofuran. ....	0.018
Chlordane . . . . .	0.0001
2,4-D . . . . .	0.07
Dalapon . . . . .	0.2
Dibromochloropropane. ....	0.0002
Di(2-ethylhexyl)adipate . . . . .	0.4
Di(2-ethylhexyl)phthalate . . . . .	0.004
Dinoseb . . . . .	0.007
Diquat . . . . .	0.02
Endothall . . . . .	0.1
Endrin. ....	0.002
Ethylene Dibromide . . . . .	0.00005
Glyphosate. ....	0.7
Heptachlor. ....	0.00001
Heptachlor Epoxide. ....	0.00001
Hexachlorobenzene . . . . .	0.001
Hexachlorocyclopentadiene . . . . .	0.05
Lindane. ....	0.0002
Methoxychlor . . . . .	<del>0.04</del> <u>0.03</u>
Molinate . . . . .	0.02
Oxamyl . . . . .	<del>0.2</del> <u>0.05</u>
Pentachlorophenol. ....	0.001
Picloram . . . . .	0.5
Polychlorinated Biphenyls. ....	0.0005
Simazine . . . . .	0.004
Thiobencarb. ....	0.07
Toxaphene. ....	0.003
2,3,7,8-TCDD (Dioxin). ....	3 x 10 <sup>-8</sup>
2,4,5-TP (Silvex). ....	0.05

\*MCL is for either a single isomer or the sum of the isomers.

Authority cited: Sections 100275, 116350 and 116365, Health and Safety Code.

Reference: Section 116365, 116385 and 116555, Health and Safety Code.

## Section 64445.1. Repeat sampling

(a) For the purposes of this article, detection shall be defined by the detection limits for purposes of reporting (DLRs) in Table 64445.1-A:

**Table 64445.1-A**  
Detection Limits for Purposes of Reporting (DLRs)  
for Regulated Organic Chemicals

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR)(mg/L)</i>
(a) All VOCs, except as listed. . . . .	0.0005
Methyl- <i>tert</i> -butyl ether . . . . .	0.003
Trichlorofluoromethane . . . . .	0.005
1,1,2-Trichloro-1,2,2-Trifluoroethane . . . . .	0.01
(b) SOCs	
Alachlor. . . . .	0.001
Atrazine. . . . .	<del>0.001</del> <u>0.0005</u>
Bentazon. . . . .	0.002
Benzo(a)pyrene. . . . .	0.0001
Carbofuran. . . . .	0.005
Chlordane. . . . .	0.0001
2,4-D. . . . .	0.01
Dalapon. . . . .	0.01
Dibromochloropropane (DBCP). . . . .	0.00001
Di(2-ethylhexyl)adipate. . . . .	0.005
Di(2-ethylhexyl)phthalate. . . . .	0.003
Dinoseb. . . . .	0.002
Diquat. . . . .	0.004
Endothall. . . . .	0.045
Endrin. . . . .	0.0001
Ethylene dibromide (EDB). . . . .	0.00002
Glyphosate. . . . .	0.025
Heptachlor. . . . .	0.00001
Heptachlor epoxide. . . . .	0.00001
Hexachlorobenzene. . . . .	0.0005
Hexachlorocyclopentadiene. . . . .	0.001
Lindane. . . . .	0.0002
Methoxychlor. . . . .	0.01
Molinate. . . . .	0.002
Oxamyl. . . . .	0.02
Pentachlorophenol. . . . .	0.0002
Picloram. . . . .	0.001

<i>Chemical</i>	<i>Detection Limit for Purposes of Reporting (DLR)(mg/L)</i>
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl). . . . .	0.0005
Simazine. . . . .	0.001
Thiobencarb. . . . .	0.001
Toxaphene. . . . .	0.001
2,3,7,8-TCDD (Dioxin). . . . .	5 x 10 <sup>-9</sup>
2,4,5-TP (Silvex). . . . .	0.001

(b) When organic chemicals are not detected pursuant to Table 64445.1-A.

(1) A water system which has not detected any of the VOCs on Table 64444-A during the initial four quarters of monitoring, shall collect and analyze one sample annually. After a minimum of three years of annual sampling with no detection of a VOC in Table 64444-A, a system using groundwater may reduce the monitoring frequency to one sample during each compliance period. A system using surface water shall continue monitoring annually.

(2) A system serving more than 3,300 persons which has not detected an SOC on Table 64444-A during the initial four quarters of monitoring shall collect a minimum of two quarterly samples for that SOC in one year during the year designated by the Department of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(3) A system serving 3,300 persons or less which has not detected an SOC on Table 64444-A during the initial four quarters of monitoring shall collect a minimum of one sample for that SOC during the year designated by the Department of each subsequent compliance period. The year will be designated on the basis of historical monitoring frequency and laboratory capacity.

(c) When organic chemicals are detected pursuant to Table 64445.1-A.

(1) Prior to proceeding with the requirements of paragraphs (c)(2) through (7), the water supplier may first confirm the analytical result, as follows: Within seven days from the notification of an initial finding from a laboratory reporting the presence of one or more organic chemical in a water sample, the water supplier shall collect one or two additional sample(s) to confirm the initial finding. Confirmation of the initial finding shall be shown by the presence of the organic chemical in either the first or second additional sample, and the detected level of the contaminant for compliance purposes shall be the average of the initial and confirmation sample(s). The initial finding shall be disregarded if two additional samples do not show the presence of the organic chemical.

(2) If one or both of the related organic chemicals heptachlor and heptachlor epoxide are detected, subsequent monitoring shall analyze for both chemicals until there has been no detection of either chemical for one compliance period.

(3) A groundwater sampling site at which one or more of the following chemicals has been detected shall be monitored quarterly for vinyl chloride: trichloroethylene, tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or 1,1-dichloroethylene. If vinyl chloride is not detected in the first quarterly sample, the sampling site shall be monitored once for vinyl chloride during each compliance period.

(4) If the detected level of organic chemicals for any sampling site does not exceed any shown in Table 64444-A, the water source shall be resampled every three months and the samples analyzed for the detected chemicals. After one year of sampling an approved surface water system or two quarters of sampling a groundwater system, the Department will consider allowing the water supplier to reduce the sampling to once per year upon request, based on a review of previous sampling data. Systems shall monitor during the quarter(s) which previously yielded the highest analytical results.

(5) If the detected level of an organic chemical for any sampling site exceeds that listed in Table 64444-A, the water supplier shall report this information to the Department within 48 hours. Unless use of the contaminated source is discontinued, the water supplier shall resample the contaminated source as follows:

(A) Water systems serving more than 3,300 persons shall sample monthly for six months and shall submit the results to the Department as specified in Section 64451(a). A water source shall be deemed to be in compliance with Section 64444 if the average concentration of the initial finding, confirmation sample(s), and six subsequent monthly samples does not exceed the MCL shown in Table 64444-A. In such cases, the water supplier may reduce the sampling frequency to once every three months. If the average annual concentration of four quarterly samples exceeds the MCL, the water source shall be deemed to be in violation of Section 64444. If any sample would cause the annual average to exceed the MCL, then the system is out of compliance immediately.

(B) Water systems serving 3,300 persons or less shall sample quarterly for one year and shall submit the results to the Department as specified in Section 64451(a). Compliance with Section 64444 shall be based on the average concentration of the initial finding, confirmation sample(s) if collected, and three subsequent quarterly samples. If any sample would cause the annual average to exceed the MCL, then the system is out of compliance immediately. If the average concentration does not exceed the MCL in Table 64444-A, the water supplier may reduce the sampling frequency to once every year during the quarter that previously yielded the highest analytical result. If the average concentration exceeds the MCL in Table 64444-A, the water system shall be deemed to be in violation of Section 64444. Subsequently,

compliance shall be determined on the basis of a running annual average of the most recent four quarters of sample results.

(6) If any resample, other than those taken in accordance with (c)(5) of this section, of a water sampling site shows that the concentration of any organic chemical exceeds a MCL shown in Table 64444-A, the water supplier shall proceed in accordance with (c)(1) and (c)(4), or (c)(5).

(7) If an organic chemical is detected and the concentration exceeds ten times the MCL, the water supplier shall notify the Department within 48 hours of the receipt of the results and the contaminated site shall be resampled within 48 hours to confirm the result. The water supplier shall notify the Department of the result of the confirmation sample(s) within 24 hours of the receipt of the confirmation result(s).

(A) If the average concentration of the original and confirmation sample(s) is less than ten times the MCL, the water supplier shall proceed in accordance with subsection (c)(5).

(B) If the average concentration of the original and confirmation samples exceeds ten times the MCL, use of the contaminated water source shall immediately be discontinued. Such a water source shall not be returned to service without written approval from the Department.

Note: Authority cited: Sections 100275 and 116375, Health and Safety Code.

Reference: Sections 116385, 116450, 116460, and 116555, Health and Safety Code.







## ARTICLE 19. NOTIFICATION OF THE DEPARTMENT AND WATER CONSUMERS

### **Section 64468.1. Health effects language - inorganic chemicals**

Pursuant to Section 64467, the explanation of potential adverse health effects for inorganic chemicals shall include the following mandatory language for the designated contaminants:

(a) Antimony: "The California Department of Health Services (DHS) sets drinking water standards and has determined that antimony is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in soils, ground water and surface waters and is often used in the flame retardant industry. It is also used in ceramics, glass, batteries, fireworks and explosives. It may get into drinking water through natural weathering of rock, industrial production, municipal waste disposal or manufacturing processes. This chemical has been shown to decrease longevity, and altered blood levels of cholesterol and glucose in laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for antimony at 0.006 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to antimony."

(b) Asbestos: "The California Department of Health Services (DHS) sets drinking water standards and has determined that asbestos fibers greater than 10 micrometers in length are a health concern at certain levels of exposure. Asbestos is a naturally occurring mineral. Most asbestos fibers in drinking water are less than 10 micrometers in length and occur in drinking water from natural sources and from corroded asbestos-cement pipes in the distribution system. The major uses of asbestos were in the production of cements, floor tiles, paper products, paint, and caulking; in transportation-related applications; and in the production of textiles and plastics. Asbestos was once a popular insulating and fire retardant material. Inhalation studies have shown that various forms of asbestos have produced lung tumors in laboratory animals. The available information on the risk of developing gastrointestinal tract cancer associated with the ingestion of asbestos from drinking water is limited. Ingestion of intermediate-range chrysotile asbestos fibers greater than 10 micrometers in length is associated with causing benign tumors in male rats. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for asbestos at 7 million long fibers per liter to reduce the potential risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to asbestos."

(c) Barium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that barium is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in some aquifers that serve as sources of ground water. It is also used in oil and gas drilling muds, automotive paints, bricks, tiles and jet fuels. It generally gets into drinking water after dissolving from naturally occurring minerals in the ground. This chemical may damage the heart and cardiovascular system, and is associated with high blood pressure in laboratory animals such as rats exposed to high levels during their lifetimes. In humans, DHS believes that effects from barium on blood pressure should not occur below 2 parts per million (ppm) in drinking water. DHS has set the drinking water standard for barium at 1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to barium."

(d) Beryllium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that beryllium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electrical equipment and electrical components. It generally gets into water from runoff from mining operations, discharge from processing plants and improper water disposal. Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. There is limited evidence to suggest that beryllium may pose a cancer risk via drinking water exposure. Therefore, DHS based the health assessment on noncancer effects with an extra uncertainty factor to account for possible carcinogenicity. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for beryllium at 0.004 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to beryllium."

(e) Cadmium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that cadmium is a health concern at certain levels of exposure. Food and the smoking of tobacco are common sources of general exposure. This inorganic metal is a contaminant in the metals used to galvanize pipe. It generally gets into water by corrosion of galvanized pipes or by improper waste disposal. This chemical has been shown to damage the kidney in animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the kidney. DHS has set the drinking water standard for cadmium at 0.005 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to cadmium."

(f) Chromium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that chromium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in the ground and is often used in the electroplating of metals. It generally gets into water from runoff from old mining operations and improper waste disposal from plating operations. This chemical has been shown to damage the kidney, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels. Some humans who were exposed to high levels of this chemical suffered liver and kidney damage, dermatitis and respiratory problems. DHS has set the drinking water standard for chromium at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to chromium."

(g) Copper: "The California Department of Health Services (DHS) sets drinking water standards and has determined that copper is a health concern at certain exposure levels. Copper, a reddish-brown metal, is often used to plumb residential and commercial structures that are connected to water distribution systems. Copper contaminating drinking water as a corrosion by-product occurs as the result of the corrosion of copper pipes that remain in contact with water for a prolonged period of time. Copper is an essential nutrient, but at high doses it has been shown to cause stomach and intestinal distress, liver and kidney damage, and anemia. Persons with Wilson's disease may be at a higher risk of health effects due to copper than the general public. DHS' primary drinking water regulation requires all public water systems to install optimal corrosion control to minimize copper contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have copper concentrations

below 1.3 parts per million (ppm) in more than 90 percent of tap water samples (the "action level") are not required to install or improve their treatment. Any water system that exceeds the action level shall also monitor their source water to determine whether treatment to remove copper in source water is needed."

(h) Cyanide: "The California Department of Health Services (DHS) sets drinking water standards and has determined that cyanide is a health concern at certain levels of exposure. This inorganic chemical is used in electroplating, steel processing plastics, synthetic fabrics and fertilizer products. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the spleen, brain and liver of humans fatally poisoned with cyanide. DHS has set the drinking water standard for cyanide at ~~0.2~~ 0.15 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to cyanide."

(i) Lead: "The California Department of Health Services (DHS) sets drinking water standards and has determined that lead is a health concern at certain exposure levels. Materials that contain lead have frequently been used in the construction of water supply distribution systems, and plumbing systems in private homes and other buildings. The most commonly found materials include service lines, pipes, brass and bronze fixtures, and solders and fluxes. Lead in these materials can contaminate drinking water as a result of the corrosion that takes place when water comes into contact with those materials. Lead can cause a variety of adverse health effects in humans. At relatively low levels of exposure, these effects may include interference with red blood cell chemistry, delays in normal physical and mental development in babies and young children, slight deficits in the attention span, hearing, and learning abilities of children, and slight increases in the blood pressure of some adults. DHS' primary drinking water regulation requires all public water systems to optimize corrosion control to minimize lead contamination resulting from the corrosion of plumbing materials. Public water systems serving 50,000 people or fewer that have lead concentrations below 15 parts per billion (ppb) in more than 90 percent of tap water samples (the "action level") have optimized their corrosion control treatment. Any water system that exceeds the action level shall also monitor their source water to determine whether treatment to remove lead in source water is needed. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment shall eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level shall also undertake a public education program to inform consumers of ways they can reduce their exposure to potentially high levels of lead in drinking water."

(j) Mercury: "The California Department of Health Services (DHS) sets drinking water standards and has determined that mercury is a health concern at certain levels of exposure. This inorganic metal is used in electrical equipment and some water pumps. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the kidney of laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for mercury at 0.002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to mercury."

(k) Nickel: "The California Department of Health Services (DHS) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining operations. This chemical has been shown to damage the heart and liver in laboratory

animals when the animals are exposed to high levels over their lifetimes. DHS has set the drinking water standard to 0.1 part per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to nickel."

(l) Nitrate: "The California Department of Health Services (DHS) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best source for information concerning alternate sources of drinking water for infants. DHS has set the drinking water standard at 10 part per million (ppm) nitrate as nitrogen (equivalent to the 45 parts per million nitrate as nitrate drinking water standard) to protect against the risk of these adverse effects. DHS has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive, DHS has also established a standard for the sum of nitrate and nitrite at 10 ppm as nitrogen. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to nitrate."

(m) Nitrite: "The California Department of Health Services (DHS) sets drinking water standards and has determined that nitrite poses an acute health concern at certain levels of exposure. This inorganic chemical is used in fertilizers and is found in sewage and wastes from humans and/or farm animals and generally gets into drinking water as a result of those activities. While excessive levels of nitrite in drinking water have not been observed, other sources of nitrite have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly. However, in most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best sources for information concerning alternate sources of drinking water for infants. DHS has set the drinking water standard at 1 part per million (ppm) as nitrogen for nitrite to protect against the risk of these adverse effects. DHS has also set a drinking water standard for nitrate (converted to nitrite in humans) at 10 ppm and for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to nitrite."

(n) Selenium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that selenium is a health concern at certain high levels of exposure. Selenium is also an essential nutrient at low levels of exposure. This inorganic chemical is found naturally in food and soils and is used in electronics, photocopy operations, the manufacture of glass, chemicals, drugs, and as a fungicide and a feed additive. In humans, exposure to high levels of selenium over a long period of time has resulted in a number of adverse health effects, including a loss of feeling and control in the arms and legs. DHS has set the drinking water

standard for selenium at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to selenium."

(o) Thallium: "The California Department of Health Services (DHS) sets drinking water standards and has determined that thallium is a health concern at certain high levels of exposure. This inorganic metal is found naturally in soils and is used in electronics, pharmaceuticals, and the manufacture of glass and alloys. This chemical has been shown to damage the kidney, liver, brain and intestines of laboratory animals when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for thallium at 0.002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to thallium."

Authority cited: Sections ~~208~~ 100275 and ~~4028~~ 116450, Health and Safety Code.

Reference: Sections ~~4010-4039.5~~ 116300-116745, Health and Safety Code.

## **Section 64468.2. Health effects language - volatile organic chemicals**

Pursuant to Section 64467, the explanation of potential adverse health effects for volatile organic chemicals shall include the following mandatory language for the designated contaminants:

(a) Benzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that benzene is a health concern at certain levels of exposure. This chemical is used as a solvent and degreaser of metals. It is also a major component of gasoline. Drinking water contamination generally results from leaking underground gasoline and petroleum tanks or improper waste disposal. This chemical has been associated with significantly increased risks of leukemia among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has also been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes. Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for benzene at 0.001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(b) Carbon tetrachloride: "The California Department of Health Services (DHS) sets drinking water standards and has determined that carbon tetrachloride is a health concern at certain levels of exposure. This chemical was once a popular household cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for carbon tetrachloride at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(c) 1,2-Dichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that ortho-dichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent in the production of pesticides and dyes. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and the blood cells of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, nervous system, and circulatory system. DHS has set the drinking water standard for ortho-dichlorobenzene at 0.6 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to ortho-dichlorobenzene."

(d) para-Dichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that para-dichlorobenzene is a health concern at certain levels of exposure. This chemical is a component of deodorizers, moth balls, and pesticides. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed to high levels of their lifetimes. Chemicals which cause adverse effects in



laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for para-dichlorobenzene at 0.005 part per million (ppm) to reduce the risk of these adverse effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(e) 1,2-Dichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2-dichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaning fluid for fats, oils, waxes, and resins. It generally gets into drinking water from improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,2-dichloroethane at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(f) 1,1-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1-dichloroethylene is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been shown to cause liver and kidney damage in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals which cause adverse effects in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,1-dichloroethylene at 0.006 part per million (ppm) to reduce the risk of these adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe."

(g) cis-1,2-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that cis-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for cis-1,2-dichloroethylene at 0.006 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to cis-1,2-dichloroethylene."

(h) trans-1,2-Dichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that trans-1,2-dichloroethylene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and intermediate in chemical production. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and the circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for trans-1,2-dichloroethylene at

0.01 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to trans-1,2-dichloroethylene."

(i) Dichloromethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that dichloromethane (methylene chloride) is a health concern at certain levels of exposure. This organic chemical is a widely used solvent. It is used in the manufacture of paint remover, as a metal degreaser and as an aerosol propellant. It generally gets into drinking water after improper discharge of waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for dichloromethane at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dichloromethane."

(j) 1,2-Dichloropropane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2-dichloropropane is a health concern at certain levels of exposure. This organic chemical is used as a solvent and pesticide. When soil and climatic conditions are favorable, 1,2-dichloropropane may get into drinking water by runoff into surface water or by leaching into ground water. It may also get into drinking water through improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for 1,2-dichloropropane at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 1,2-dichloropropane."

(k) Ethylbenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that ethylbenzene is a health concern at certain levels of exposure. This organic chemical is a major component of gasoline. It generally gets into water by improper waste disposal or leaking gasoline tanks. This chemical has been shown to damage the kidney, liver, and nervous system of laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for ethylbenzene at ~~0.7~~ 0.300 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to ethylbenzene."

(l) Methyl-*tert*-butyl ether: "The California Department of Health Services (DHS) sets drinking water standards and has determined that Methyl-*tert*-butyl ether (MTBE) is a health concern at certain levels of exposure. This organic chemical is used in gasoline and in chemical laboratories. It generally gets into water from leaking underground gasoline storage tanks and pipelines. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for MTBE at 0.013 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been

observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to MTBE."

~~(m)~~ (m) Monochlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that monochlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a solvent. It generally gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. DHS has set the drinking water standard for monochlorobenzene at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to monochlorobenzene."

~~(m)~~ (n) Styrene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that styrene is a health concern at certain levels of exposure. This organic chemical is commonly used to make plastics and is sometimes a component of resins used for drinking water treatment. Styrene may get into drinking water from improper waste disposal. This chemical has been shown to damage the liver and nervous system in laboratory animals when exposed at high levels during their lifetimes. DHS has set the drinking water standard for styrene at 0.1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to styrene."

~~(n)~~ (o) Tetrachloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that tetrachloroethylene is a health concern at certain levels of exposure. This organic chemical has been a popular solvent, particularly for dry cleaning. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for tetrachloroethylene at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to tetrachloroethylene."

~~(o)~~ (p) Toluene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that toluene is a health concern at certain levels of exposure. This organic chemical is used as a solvent and in the manufacture of gasoline for airplanes. It generally gets into water by improper waste disposal or leaking underground storage tanks. This chemical has been shown to damage the kidney, nervous system, and circulatory system of laboratory animals such as rats and mice exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the liver, kidney and nervous system. DHS has set the drinking water standard for toluene at 0.15 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to toluene."

~~(p)~~ (q) 1,2,4-Trichlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,2,4-trichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a dye carrier and as a precursor in herbicide manufacture. It generally gets into drinking water by discharges from industrial

activities. This chemical has been shown to cause damage to several organs, including the adrenal glands. DHS has set the drinking water standard for 1,2,4-trichlorobenzene ~~0.07~~ 0.005 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to 1,2,4-trichlorobenzene."

(+) (r) 1,1,1-Trichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1,1-trichloroethane is a health concern at certain levels of exposure. This chemical is used as a cleaner and degreaser of metals. It generally gets into drinking water by improper waste disposal. This chemical has been shown to damage the liver, nervous system, and circulatory system of laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the liver, nervous system, and circulatory system. Chemicals which cause adverse effects among exposed industrial workers and in laboratory animals also may cause adverse health effects in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for 1,1,1-trichloroethane at 0.2 part per million (ppm) to protect against the risk of these adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to 1,1,1-trichloroethane."

(+) (s) 1,1,2-Trichloroethane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 1,1,2-trichloroethane is a health concern at certain levels of exposure. This organic chemical is an intermediate in the production of 1,1-dichloroethylene. It generally gets into water by industrial discharges of wastes. This chemical has been shown to damage the kidney and liver of laboratory animals such as rats exposed to high levels during their lifetimes. DHS has set the drinking water standard for 1,1,2-trichloroethane at 0.005 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to 1,1,2-trichloroethane."

(+) (t) Trichloroethylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that trichloroethylene is a health concern at certain levels of exposure. This chemical is a common metal cleaning and dry cleaning fluid. It generally gets into drinking water by improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set forth the enforceable drinking water standard for trichloroethylene at 0.005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to trichloroethane."

(+) (u) Vinyl chloride: "The California Department of Health Services (DHS) sets drinking water standards and has determined that vinyl chloride is a health concern at certain levels of exposure. This chemical is used in industry and is found in drinking water as a result of the breakdown of related solvents. The solvents are used as cleaners and degreasers of metals and generally get into drinking water by improper waste disposal. This chemical has been associated with significantly increased risks of cancer among certain industrial workers who were exposed to relatively large amounts of this chemical during their working careers. This chemical has been shown to cause cancer in laboratory animals when the animals are exposed at high levels over their lifetimes.

Chemicals that cause increased risk of cancer among exposed industrial workers and in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. DHS has set the enforceable drinking water standard for vinyl chloride at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in humans and laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to vinyl chloride."

~~(u)~~ (v) Xylene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that xylene is a health concern at certain levels of exposure. This organic chemical is used in the manufacture of gasoline for airplanes and as a solvent for pesticides, and as a cleaner and degreaser of metals. It usually gets into water by improper waste disposal. This chemical has been shown to damage the liver, kidney and nervous system of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for xylene at 1.750 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to xylene."

Authority cited: Sections 100275 and 116450, Health and Safety Code.

Reference: Sections 116300-116745, Health and Safety Code.

### Section 64468.3. Health effects language - synthetic organic chemicals

Pursuant to Section 64467, the explanation of potential adverse health effects for synthetic organic chemicals shall include the following mandatory language for the designated contaminants:

(a) Alachlor: "The California Department of Health Services (DHS) sets drinking water standards and has determined that alachlor is a health concern at certain levels of exposure. This organic chemical is a widely used pesticide. When soil and climatic conditions are favorable, alachlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for alachlor at 0.002 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to alachlor."

(b) Atrazine: "The California Department of Health Services (DHS) sets drinking water standards and has determined that atrazine is a health concern at certain levels of exposure. This organic chemical is a herbicide. When soil and climatic conditions are favorable, atrazine may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to affect offspring of rats and the heart of dogs. DHS has set the drinking water standard for atrazine at ~~0.003~~ 0.001 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to atrazine."

(c) Benzo[a]pyrene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that benzo[a]pyrene is a health concern at certain levels of exposure. Cigarette smoke and charbroiled meats are common source of general exposure. The major source of benzo[a]pyrene in drinking water is the leaching from coal tar lining and sealants in water storage tanks. This chemical has been shown to cause cancer in animals such as rats and mice when the animals are exposed at high levels. DHS has set the drinking water standard for benzo[a]pyrene at 0.0002 part per million (ppm) to protect against the risk of cancer. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to benzo[a]pyrene."

(d) Carbofuran: "The California Department of Health Services (DHS) sets drinking water standards and has determined that carbofuran is a health concern at certain levels of exposure. This organic chemical is a pesticide. When soil and climatic conditions are favorable, carbofuran may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the nervous and reproductive systems of laboratory animals such as rats and mice exposed at high levels over their lifetimes. Some humans who were exposed to relatively large amounts of this chemical during their working careers also suffered damage to the nervous system. Effects on the nervous system are generally rapidly reversible. DHS has set the drinking water standard for carbofuran at 0.018 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to carbofuran."

(e) Chlordane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that chlordane is a health concern at certain levels of exposure. This

organic chemical is a pesticide used to control termites. Chlordane is not very mobile in soils. It usually gets into drinking water after application near water supply intakes or wells. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for chlordane at 0.0001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to chlordane."

(f) 2,4-D: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 2,4-D is a health concern at certain levels of exposure. This organic chemical is used as a herbicide and to control algae in reservoirs. When soil and climatic conditions are favorable, 2,4-D may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system. DHS has set the drinking water standard for 2,4-D at 0.07 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 2,4-D."

(g) Dalapon: "The California Department of Health Services (DHS) sets drinking water standards and has determined that dalapon is a health concern at certain levels of exposure. This organic chemical is a widely used herbicide. It may get into drinking water after application to control grasses in crops, drainage ditches and along railroads. This chemical has been shown to cause damage to the kidney and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. DHS has set the drinking water standard for dalapon at 0.2 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to dalapon."

(h) Dibromochloropropane (DBCP): "The California Department of Health Services (DHS) sets drinking water standards and has determined that DBCP is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, dibromochloropropane may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for DBCP at 0.0002 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to DBCP."

(i) Di(2-ethylhexyl)adipate: "The California Department of Health Services (DHS) sets drinking water standards and has determined that di(2-ethylhexyl)adipate is a health concern at certain levels of exposure. Di(2-ethylhexyl)adipate is a widely used plasticizer in a variety of products, including synthetic rubber, food packaging materials and cosmetics. It may get into drinking water after improper waste disposal. This chemical has been shown to damage liver and testes in laboratory animals such as rats and mice exposed to high levels. DHS has set the drinking water standard for di(2-ethylhexyl)adipate at 0.4 part per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the DHS standards is

associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)adipate."

(j) Di(2-ethylhexyl)phthalate: "The California Department of Health Services (DHS) sets drinking water standards and has determined that di(2-ethylhexyl)phthalate is a health concern at certain levels of exposure. Di(2-ethylhexyl)phthalate is a widely used plasticizer, which is primarily used in the production of polyvinyl chloride (PVC) resins. It may get into drinking water after improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice exposed to high levels over their lifetimes. DHS has set the drinking water standard for di(2-ethylhexyl)phthalate at 0.004 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)phthalate."

(k) Dinoseb: "The California Department of Health Services (DHS) sets drinking water standards and has determined that dinoseb is a health concern at certain levels of exposure. Dinoseb is a widely used pesticide and generally gets into drinking water after application on orchards, vineyards and other crops. This chemical has been shown to damage the thyroid and reproductive organs in laboratory animals such as rats exposed to high levels. DHS has set the drinking water standard for dinoseb at 0.007 part per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to dinoseb."

(l) Diquat: "The California Department of Health Services (DHS) sets drinking water standards and has determined that diquat is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidney and gastrointestinal tract and causes cataract formation in laboratory animals such as dogs and rats exposed at high levels over their lifetimes. DHS has set the drinking water standard for diquat at 0.02 part per million (ppm) to protect against the risk of these adverse effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to diquat."

(m) Endothall: "The California Department of Health Services (DHS) sets drinking water standards and has determined that endothall is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into water by runoff into surface water. This chemical has been shown to damage the liver, kidney, gastrointestinal tract and reproductive system of laboratory animals such as rats and mice exposed at high levels over their lifetimes. DHS has set the drinking water standard for endothall at 0.1 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to endothall."

(n) Endrin: "The California Department of Health Services (DHS) sets drinking water standards and has determined that endrin is a health concern at certain levels of exposure. This organic chemical is a pesticide no longer registered for use in the United States. However, this chemical is persistent in treated soils and accumulates in sediments and aquatic and terrestrial biota. This chemical has been shown to cause damage to the liver, kidney and heart in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for endrin at 0.002 part per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals."



Drinking water that meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to endrin."

(o) Ethylene dibromide (EDB): "The California Department of Health Services (DHS) sets drinking water standards and has determined that EDB is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, EDB may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for EDB at 0.00005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to EDB."

(p) Glyphosate: "The California Department of Health Services (DHS) sets drinking water standards and has determined that glyphosate is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control grasses and weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to cause damage to the liver and kidneys in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for glyphosate at 0.7 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to glyphosate."

(q) Heptachlor: "The California Department of Health Services (DHS) sets drinking water standards and has determined that heptachlor is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for heptachlor at 0.00001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor."

(r) Heptachlor epoxide: "The California Department of Health Services (DHS) sets drinking water standards and has determined that heptachlor epoxide is a health concern at certain levels of exposure. This organic chemical was once a popular pesticide. When soil and climatic conditions are favorable, heptachlor epoxide may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for heptachlor epoxide at 0.00001 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to heptachlor epoxide."

(s) Hexachlorobenzene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that hexachlorobenzene is a health concern at certain levels of exposure. This organic chemical is produced as an impurity in the manufacture of certain solvents and pesticides. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed to high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for hexachlorobenzene at 0.001 part per million (ppm) to protect against the risk of cancer and other adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to hexachlorobenzene."

(t) Hexachlorocyclopentadiene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that hexachlorocyclopentadiene is a health concern at certain levels of exposure. This organic chemical is used as an intermediate in the manufacture of pesticides and flame retardants. It may get into water by discharge from production facilities. This chemical has been shown to damage the kidney and the stomach of laboratory animals when exposed to high levels over their lifetimes. DHS has set the drinking water standard for hexachlorocyclopentadiene at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to hexachlorocyclopentadiene."

(u) Lindane: "The California Department of Health Services (DHS) sets drinking water standards and has determined that lindane is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, lindane may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver, kidney, nervous system, and immune system of laboratory animals such as rats, mice and dogs exposed at high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the nervous system and circulatory system. DHS has established the drinking water standard for lindane at 0.0002 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to lindane."

(v) Methoxychlor: "The California Department of Health Services (DHS) sets drinking water standards and has determined that methoxychlor is a health concern at certain levels of exposure. This organic chemical is used as a pesticide. When soil and climatic conditions are favorable, methoxychlor may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver, kidney, nervous system, and reproductive system of laboratory animals such as rats exposed at high levels during their lifetimes. It has also been shown to produce growth retardation in rats. DHS has set the drinking water standard for methoxychlor at ~~0.04~~ 0.03 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to methoxychlor."

(w) Oxamyl: "The California Department of Health Services (DHS) sets drinking water standards and has determined that oxamyl is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for the control of insects and other pests. It may get into drinking water by runoff into surface water or leaching into ground water. This chemical has been shown to damage the kidneys of laboratory animals such as rats when exposed at high levels over their lifetimes. DHS has set the drinking water standard for oxamyl at ~~0.2~~ 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the

DHS standard is associated with little to none of this risk and should be considered safe with respect to oxamyl."

(x) Pentachlorophenol: "The California Department of Health Services (DHS) sets drinking water standards and has determined that pentachlorophenol is a health concern at certain levels of exposure. This organic chemical is used as a wood preservative, herbicide, disinfectant, and defoliant. It generally gets into drinking water by runoff into surface water or leaching into ground water. This chemical has been shown to produce adverse reproductive effects and to damage the liver and kidneys of laboratory animals such as rats exposed to high levels during their lifetimes. Some humans who were exposed to relatively large amounts of this chemical also suffered damage to the liver and kidneys. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for pentachlorophenol at 0.001 part per million (ppm) to protect against the risk of cancer or other adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to pentachlorophenol."

(y) Picloram: "The California Department of Health Services (DHS) sets drinking water standards and has determined that picloram is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for broadleaf weed control. It may get into drinking water by runoff into surface water or leaching into ground water as a result of pesticide application and improper waste disposal. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. DHS has set the drinking water standard for picloram at 0.5 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to picloram."

(z) Polychlorinated biphenyls (PCBs): "The California Department of Health Services (DHS) sets drinking water standards and has determined that polychlorinated biphenyls (PCBs) are a health concern at certain levels of exposure. These organic chemicals were once widely used in electrical transformers and other industrial equipment. They generally get into drinking water by improper waste disposal or leaking electrical industrial equipment. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for PCBs at 0.0005 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to PCBs."

(aa) Simazine: "The California Department of Health Services (DHS) sets drinking water standards and has determined that simazine is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control annual grasses and broadleaf weeds. It may leach into ground water or run off into surface water after application. This chemical may cause cancer in laboratory animals such as rats and mice exposed at high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for simazine at 0.004 part per million (ppm) to reduce the risk of cancer or other adverse health effects.

Drinking water which meets the DHS standard is associated with little to none of this risk and should be considered safe with respect to simazine."

(bb) Toxaphene: "The California Department of Health Services (DHS) sets drinking water standards and has determined that toxaphene is a health concern at certain levels of exposure. This organic chemical was once a pesticide widely used on cotton, corn, soybeans, pineapples and other crops. When soil and climatic conditions are favorable, toxaphene may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for toxaphene at 0.003 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets this standard is associated with little to none of this risk and is considered safe with respect to toxaphene."

(cc) 2,3,7,8-TCDD (Dioxin): "The California Department of Health Services (DHS) sets drinking water standards and has determined that dioxin is a health concern at certain levels of exposure. This organic chemical is an impurity in the production of some pesticides. It may get into drinking water by industrial discharge of wastes. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for dioxin at 0.00000003 part per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dioxin."

(dd) 2,4,5-TP: "The California Department of Health Services (DHS) sets drinking water standards and has determined that 2,4,5-TP is a health concern at certain levels of exposure. This organic chemical is used as a herbicide. When soil and climatic conditions are favorable, 2,4,5-TP may get into drinking water by runoff into surface water or by leaching into ground water. This chemical has been shown to damage the liver and kidney of laboratory animals such as rats and dogs exposed to high levels during their lifetimes. Some industrial workers who were exposed to relatively large amounts of this chemical during working careers also suffered damage to the nervous system. DHS has set the drinking water standard for 2,4,5-TP at 0.05 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the DHS standard is associated with little to none of this risk and is considered safe with respect to 2,4,5-TP."

#### **Section 64468.4. Health effects language - treatment technique chemicals**

Pursuant to Section 64467, the explanation of potential adverse health effects for treatment technique chemicals shall include the following mandatory language for the designated contaminants:

(a) Acrylamide: "The California Department of Health Services (DHS) sets drinking water standards and has determined that acrylamide is a health concern at certain levels of exposure. Polymers made from acrylamide are sometimes used to treat water supplies to remove particulate contaminants. Acrylamide has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause

cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. Sufficiently large doses of acrylamide are known to cause neurological injury. DHS has set the drinking water standard for acrylamide using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of acrylamide in the polymer and the amount of the polymer which may be added to drinking water to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to acrylamide."

(b) Epichlorohydrin: "The California Department of Health Services (DHS) sets drinking water standards and has determined that epichlorohydrin is a health concern at certain levels of exposure. Polymers made from epichlorohydrin are sometimes used in the treatment of water supplies as a flocculent to remove particulates. Epichlorohydrin generally gets into drinking water by improper use of these polymers. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. DHS has set the drinking water standard for epichlorohydrin using a treatment technique to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. This treatment technique limits the amount of epichlorohydrin in the polymer and the amount of the polymer which may be added to drinking water as a flocculent to remove particulates. Drinking water systems which comply with this treatment technique have little to no risk and are considered safe with respect to epichlorohydrin."

Authority cited: Sections ~~208~~ 100275 and ~~4028~~ 116450, Health and Safety Code.

Reference: Sections ~~4010-4039.5~~ 116300-116745, Health and Safety Code.